5th Grade Math- Measurement & Data, Standard 1

Multiple Choice

Identify the choice that best completes the statement or answers the question.

Solve the following problems by converting.

1. Asad needs 1kg of salt for a project; he has 245g of salt. How many kg does he have?
   a. 02.45kg
   b. 024.5kg
   c. .0245kg
   d. 0.245kg

2. Asad needs 1kg of salt for a project; he has 245g of salt. How much more does he need to reach his goal of 1kg?
   a. 755g
   b. 75.5g
   c. 7.55g
   d. 0.755g

3. Brady needs to create a wall 5 feet long with lego building blocks. Each lego block is 1 inch long, how many blocks does he need to create a wall one block high?
   a. 58
   b. 55
   c. 5
   d. 60

4. Brady needs to create a wall 5 feet long with lego building blocks. Each lego block is 1 inch long, how many blocks does he need to create a wall two blocks high?
   a. 120
   b. 80
   c. 40
   d. 60

5. Emily's toy train has 22 sections of track that are each 1ft long. How many yards of train track does she have?
   a. 0.733333333
   b. 7.33333333
   c. 733.333333
   d. 73.3333333

6. Cameron is traveling and sees a sign that says, "Next gas station 9 kilometers"; he knows he has enough gas to go 8000m. When he runs out of gas how far would he have to walk to get to the station?
   a. 10m
   b. 100m
   c. 1000m
   d. 10,000m

7. Dawson is told that he must run 2.5 miles: How many feet will he have to run?
   a. 13ft
   b. 132ft
   c. 1320ft
   d. 13,200ft

8. Brandon's cat weighs 150oz. How many pounds is that?
   a. 93.75 lbs
   b. .09375 lbs
   c. 9.375 lbs
   d. .009375 lbs

Answer 1: D

245g

First convert grams to kilograms using the conversion factor of $\frac{kg}{1000g}$.

$245g \cdot \frac{kg}{1000g}$

Cancel the grams units (g).

$245\cancel{g} \cdot \frac{kg}{1000\cancel{g}}$

Remove the cancelled units (g) from the expression.

$245 \cdot \frac{kg}{1000}$

Multiply 245 by $\frac{kg}{1000}$ to get $\frac{245kg}{1000}$.

$\frac{245kg}{1000}$

Divide 245 by 1000 to get 0.245.

Answer 2: A

245g

First convert grams to kilograms using the conversion factor of $\frac{kg}{1000g}$.

$245g \cdot \frac{kg}{1000g}$

Cancel the grams units (g).

$245\cancel{g} \cdot \frac{kg}{1000\cancel{g}}$

Remove the cancelled units (g) from the expression.

$245 \cdot \frac{kg}{1000}$

Multiply 245 by $\frac{kg}{1000}$ to get $\frac{245kg}{1000}$.

$\frac{245kg}{1000}$

Divide 245 by 1000 to get 0.245

Now take 1000g (which equals 1kg) & subtract it by 0.245g
=755g more needed to reach his goal.

Answer 3: D

5ft

Convert feet to inches using the conversion factor of $\frac{12in}{ft}$.

$5ft \cdot \frac{12in}{ft}$

Cancel the feet units (ft).

$5\cancel{ft} \cdot \frac{12in}{\cancel{ft}}$

Remove the cancelled units (ft) from the expression.

$5 \cdot 12in$

Multiply 5 by 12in to get 60in. (or blocks)

Answer 4: A

5ft

Convert feet to inches using the conversion factor of $\frac{12\text{in}}{\text{ft}}$.

$5\text{ft} \cdot \frac{12\text{in}}{\text{ft}}$

Cancel the feet units (ft).

$5\cancel{\text{ft}} \cdot \frac{12\text{in}}{\cancel{\text{ft}}}$

Remove the cancelled units (ft) from the expression.

5 · 12in

Multiply 5 by 12in to get 60in. (or blocks)

That will give you a wall 1 block high.

Take the 60 blocks and multiply it by the number of blocks high (2)

=120

Answer 5: B

22ft

Convert feet to yards using the conversion factor of $\frac{\text{yds}}{3\text{ft}}$.

$22\text{ft} \cdot \frac{\text{yds}}{3\text{ft}}$

Cancel the feet units (ft).

$22\cancel{\text{ft}} \cdot \frac{\text{yds}}{3\cancel{\text{ft}}}$

Remove the cancelled units (ft) from the expression

$22 \cdot \frac{\text{yds}}{3}$

Multiply 22 by $\frac{\text{yds}}{3}$ to get $\frac{22\text{yds}}{3}$.

$\frac{22\text{yds}}{3}$

Divide 22 by 3 to get 7.33333333.

7.33333333yds

Answer 6: C

9km

Convert kilometers to meters using the conversion factor of $\frac{1000\text{m}}{\text{km}}$.

$9\text{km} \cdot \frac{1000\text{m}}{\text{km}}$

Cancel the kilometer units (km).

$9\cancel{\text{km}} \cdot \frac{1000\text{m}}{\cancel{\text{km}}}$

Remove the cancelled units (km) from the expression

9 · 1000m

Multiply 9 by 1000m to get 9000m.

9000m

Since he only has enough gas to go 8000m and 1 kilometer is 9000m subtract 8000 from 9000.

He will have to walk another 1000m to reach the station.

Answer 7: D

2.5mi

Convert miles to feet using the conversion factor of $\frac{5280ft}{mi}$.

$2.5mi \cdot \frac{5280ft}{mi}$

Cancel the miles units (mi).

$2.5\cancel{mi} \cdot \frac{5280ft}{\cancel{mi}}$

Remove the cancelled units (mi) from the expression.

$2.5 \cdot 5280ft$

Multiply 2.5 by 5280ft to get 13200ft.

13200ft

Answer 8: C

150oz

Convert ounces to pounds using the conversion factor of $\frac{lbs}{16oz}$.

$150oz \cdot \frac{lbs}{16oz}$

Cancel the ounces units (oz).

$150\cancel{oz} \cdot \frac{lbs}{16\cancel{oz}}$

Remove the cancelled units (oz) from the expression.

$150 \cdot \frac{lbs}{16}$

Multiply 150 by $\frac{lbs}{16}$ to get $\frac{150lbs}{16}$.

$\frac{150lbs}{16}$

Divide 150 by 16 to get 9.375.

9.375lbs